How to Setup a Full Bonacoin Node on a Raspberry Pi 3
The Easy Step-By-Step Guide for Windows/Linux/Mac

The purpose of this guide is to help facilitate the support of a healthy Bonacoin Network in a cost efficient way. The more full nodes there are distributed throughout the world, the less the Bonacoin Network is prone to attack.

Quick Disclaimer: This work is the compilation of other guides. I give credit to the authors of the other guides I based my work on. Also I will provide you an .img of the final product of this guide in case you want to create a bonacoin node in the easiest and quickest way possible.

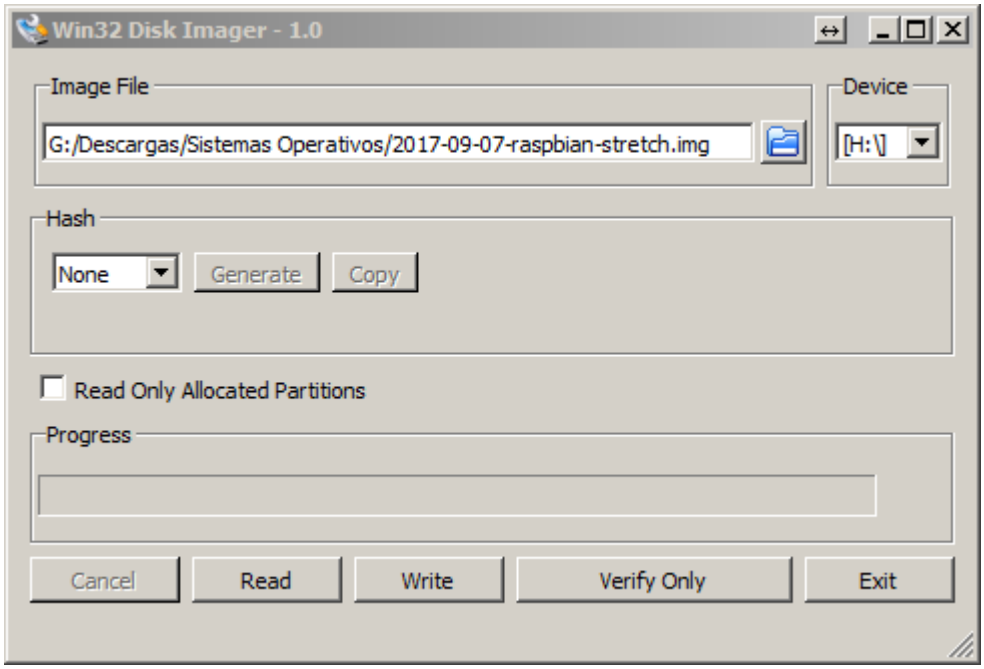
What you will need:

Rasberry Pi Micro SD HDMI to VGA Adapter

1. Raspberry (duuuh)
2. A at least 8gb micro SD (32GB recommended)
3. A power supply (micro USB cable)
4. An HDMI cable or a HDMI to VGA adapter
5. Keyboard and mouse
6. Internet
7. A copy of the latest Raspbian OS (https://www.raspberrypi.org/downloads/raspbian/)
8. Win32Disk (https://sourceforge.net/projects/win32diskimager/) (Only if you are using Windows)
9. If you want to do it on your own because #YOLO here is the link to all the Bonacoin clients : https://github.com/drlamesobona/bonacoin/

Windows:

1. I am going to assume you already downloaded and installed Win32Disk and you already downloaded the latest Raspbian OS Image. The first step is to create a bootable micro SD with Raspbian on it where you will be running the node.
2. Open Win32Disk, select the Device that you will be using (don't worry about formatting, it will be done here automatically), and then select the .img you downloaded. It has to look something similar to this:



Once you have configured as above, click on "Write", and be patient. It might take a while.

Linux:

1. Press CTRL+ALT+T to open a terminal window or alternatively, open the terminal your way, next you are going to write:

Lsblk

This will show all the current partitions and drives, look for your micro SD here always by looking at the gigabits size that the system is showing, if your micro SD has multiple partitions, you can see your drive name by removing the last number, for example you might get that your drive name is /dev/sda1, this means that the drive name is sda and the number 1 represents the number of the partition.

2. Knowing this, you will type now:

sudo dd if=/location/of/the/img/file.img of=/dev/sd**X**

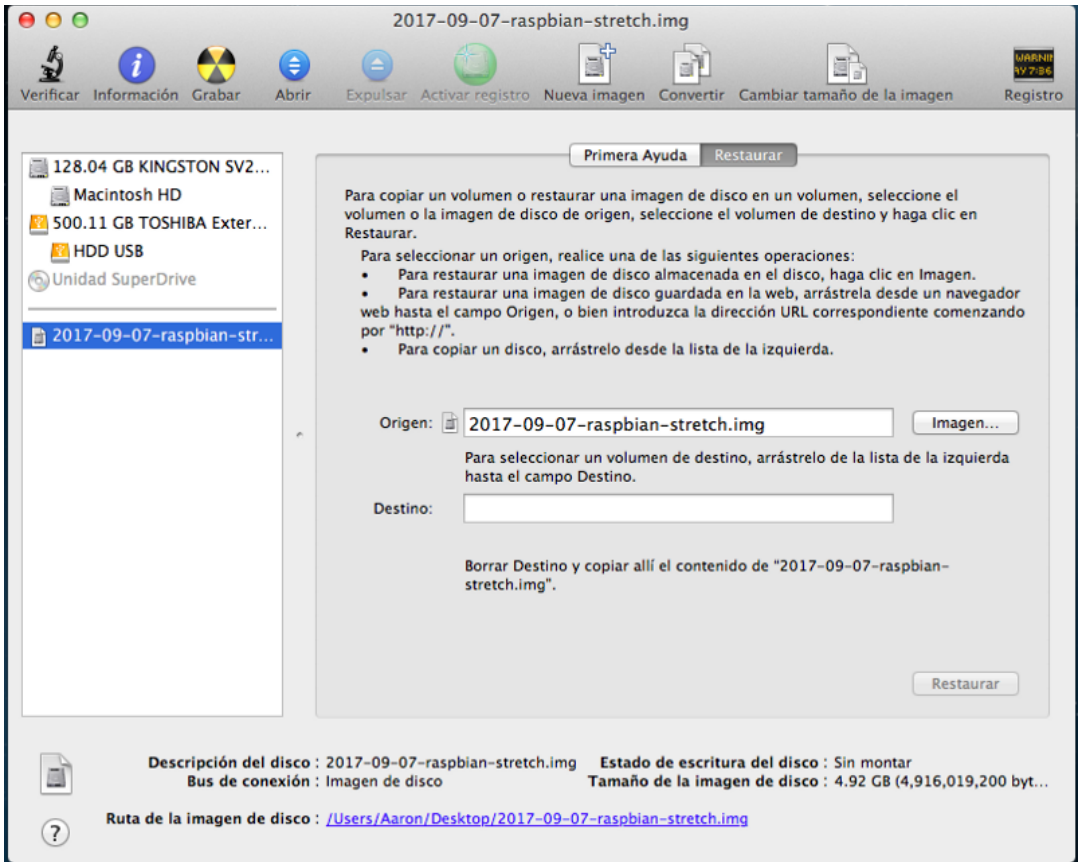
And again just wait until this finishes and you are set to go!

Mac:

Go to your applications folder, then click on utilities and click on Disk Utility.

1. Now mount the Raspbian.img file either by double clicking it, or by right clicking on it and open with disk utilities.

2. On the Disk Utility application select the .IMG file from the left panel and go to “Restore”, on the target field select and drag to it the micro SD from your left panel as well. Then click on the restore button. Just wait until it completes.


2017-09-07-raspbian-stretch.img
Verificar
Información
Grabar
Abrir
Expulsar
Activar registro
Nueva imagen
Convertir
Cambiar tamaño de la imagen
Registro
128.04 GB KINGSTON SV2...
Macintosh HD
500.11 GB TOSHIBA Exter...
HDD USB
Unidad SuperDrive
2017-09-07-raspbian-str...
Primera Ayuda
Restaurar
Para copiar un volumen o restaurar una imagen de disco en un volumen, seleccione el volumen o la imagen de disco de origen, seleccione el volumen de destino y haga clic en Restaurar.
Para seleccionar un origen, realice una de las siguientes operaciones:
Para restaurar una imagen de disco almacenada en el disco, haga clic en Imagen.
Para restaurar una imagen de disco guardada en la web, arrástrela desde un navegador web hasta el campo Origen, o bien introduzca la dirección URL correspondiente comenzando por "http://".
Para copiar un disco, arrástrelo desde la lista de la izquierda.
Origen:
2017-09-07-raspbian-stretch.img
Imagen...
Para seleccionar un volumen de destino, arrástrelo de la lista de la izquierda hasta el campo Destino.
Destino:
Borrar Destino y copiar allí el contenido de "2017-09-07-raspbian-stretch.img".
Restaurar
Descripción del disco : 2017-09-07-raspbian-stretch.img
Bus de conexión : Imagen de disco
Estado de escritura del disco : Sin montar
Tamaño de la imagen de disco : 4.92 GB (4,916,019,200 byt...
Ruta de la imagen de disco : /Users/Aaron/Desktop/2017-09-07-raspbian-stretch.img

Configure Raspbian

Once you have successfully wrote the .img to the micro SD, it's the time to boot your Raspberry. Insert it in its slot and plug it into your monitor and the wall. The system will autostart and it will reboot itself.

OPTIONAL STEP: Change the Keyboard Layout to your computer's Keyboard. To do this go to the Start Menu >Preferences >Mouse and Keyboard > Keyboard > Layout and select the one that works the best for you.

Step 1. The first step to do is to increase the SWAP partition. To do this, press CRTL+ALT+T and a Terminal Window will open. Type in the following code:

sudo nano /etc/dphys-swapfile

Now change the Value that

reads **CONFIG_SWAPSIZE=100** to **CONFIG_SWAPSIZE=1000**

Press CTRL+O then hit Enter to confirm and finally CRTL + X to exit.

After that now type

sudo dphys-swapfile setup

and then

sudo dphys-swapfile swapon

Step 2. To get everything ready to download the Bonacoin client. To do this connect to your internet either via WIFI or Ethernet.

Step 3. Once you are connected you are going to type this (copy-paste it, it's ok to be lazy):

sudo apt-get install git build-essential libtool autotools-dev

automake pkg-config libssl-dev libevent-dev bsdmainutils libboost-system-dev libboost-filesystem-dev libboost-chrono-dev libboost-program-options-dev libboost-test-dev libboost-thread-dev libminiupnpc-dev libzmq3-dev jq
UPDATE: type “sudo apt-get update” after step 3 just to avoid possible future errors.

Let it finish its thing and in the meanwhile, check what is the latest Bonacoin client version. At the moment of writing this guide (Aug 2018), the latest is 0.16
Check the version here: https://github.com/drlamesobona/bonacoin/

Step 4. Now that you know what Bonacoin version is the most current, type:

cd ~
git clone -b 0.16 https://github.com/drlamesobona/bonacoin.git

Wait again until it finishes

Disclaimer: I am not going to go through how to get wallet capabilities since this is supposed to be the simplest guide possible.

Step 5. Time to install Bonacoin!
Copy-paste the following or type it like an old man

cd bonacoin

If that does not work because life hates you, try:

cd /home/pi/bonacoin

Now type:
./autogen.sh

Once again, wait until it finishes. It should take about 3 minutes to complete

Step 6. We are almost done here. Just a few more steps! Now type or copy and past:

./configure CXXFLAGS="--param ggc-min-expand=1 --param ggc-min-heapsize=32768" --enable-cxx --without-gui --disable-shared --with-pic --enable-upnp-default --disable-wallet

Give it a minute or two to complete.
Step 7. And here is where all the years of practice come in hand, type:

make check

It will take a long time. If you get an error here, it means you did something wrong, but no worries we can fix that, just start back from step 5 and move forward. Your installation should work.

sudo make install

Step 8. Now let's go back to your root folder, type:

cd ~/
And then
bonacoind -daemon

Once you have done that, it will create some essential files that you will need for the next step. Press CTRL+ C to stop the process and then type:

nano .litecoin/litecoin.config

Here you want to add your username, password, as well as some optimizing configuration made possible by Jameson Lopp's work.

rpcuser=MC_LOVIN
rpcpassword=YOURPASSWORD
daemon=1

dbcache=100
maxorphantx=10
maxmempool=50
maxconnections=40
maxuploadtarget=5000

Press CTRL+O to write it off, then ENTER to confirm, then CRTL+X to exit the file.
12. Here are the last steps, now type:
Litecoin-cli stop
then
Litecoind
This will restart the Bonacoin node, and just to verify that it is working type:

tail -f ~/.litecoin/debug.log

Press CTRL+C to kill the process and to go back to the terminal and to conclude type:

which bonacoind
and
crontab -e
select 2, then add
@reboot sleep 8; /usr/local/bin/bonacoind

Press CTRL+O, then Enter then CTRL+X

I recommend you installing teamviewer to remotely connect and manage your Raspberry but in the end it’s up to you.